

# **The South African Journal *of* Medical Laboratory Technology**

ORGAN OF THE SOCIETY OF MEDICAL LABORATORY  
TECHNOLOGISTS OF SOUTH AFRICA

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A QUARTERLY

March, 1959



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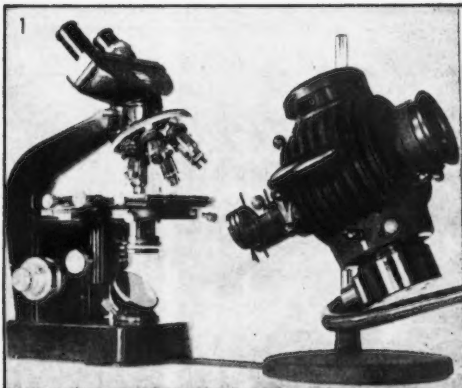
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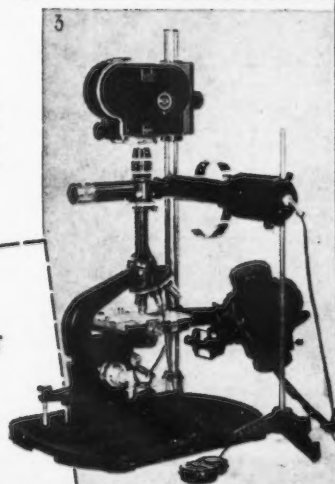
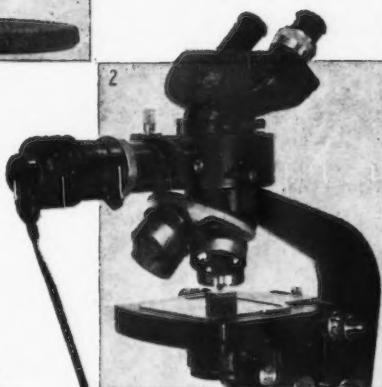
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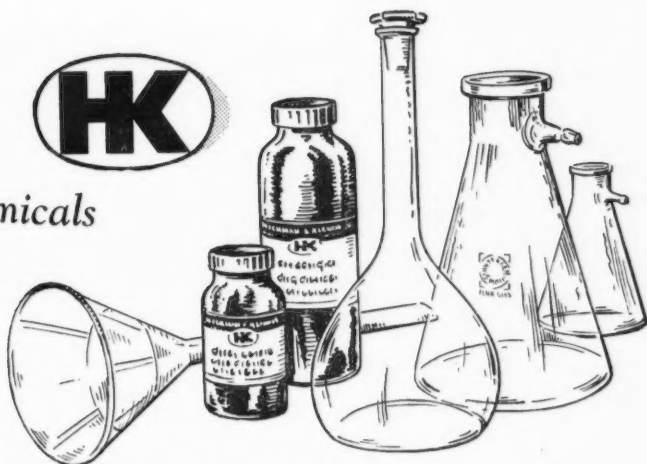
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## **CONTENTS**

	<i>Page</i>
Editorial ... ..	2
Van die Redakteur ... ..	3
Some Reflections on the 1959 Intermediate Examinations ... ..	4
Notices ... ..	10
Letters to the Editor ... ..	13
Abstracts ... ..	15
Society News ... ..	16
New Apparatus ... ..	16
Examination Results ... ..	17

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*Editorial***WIDER HORIZONS**

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In this issue we publish an extract from the minutes of a meeting of the Committee of the International Congress of Medical Technologists in which an invitation is extended to members who wish to visit Holland on holiday. This raises the wider issue of international co-operation by means of interchange of personnel. The International Congress is at present investigating the possibilities of staff interchanges between constituent members of the organization and in its questionnaire was the key question—who will bear the cost of such an interchange?—State, employer or the medical technologist concerned.

It appears to us that State-aided interchange would be of immense value to the profession of medical technology in South Africa, isolated as we are from the closer co-operative linkages of Europe by distance and by the cost of travel today. South Africans could be employed in Europe's most famous laboratories, whilst the field of the tropical and sub-tropical laboratory would become available to our northern colleagues.

The Society of Medical Laboratory Technologists of South Africa, which is to become a constituent member of the International Congress, must do all in its power to help, but the individual member, by lobbying in the right places, can also do his bit. It can only be of benefit to widen the horizons of medical technology.



Van die Redakteur

## BREËR UITSIGTE

---

Ons publiseer in hierdie uitgawe 'n uittreksel van die notule van die komitee vir die Internasionale Kongres van Mediese Tegnoloë waarin 'n uitnodiging aan lede gerig word om Holland met vakansie te besoek. Die kwessie van internasionale samewerking deur personeels-omruiking plaas sake vir ons op 'n wyer basis. Die Internasionale Kongres is tans besig om die moontlikhede van stafwisseling tussen lede van die organisasie te ondersoek. Die belangrike vraag was: Wie sal die koste dra van so 'n wisseling? Sal dit die staat, die werkgewer of die betrokke tegnoloog wees?

Dit wil vir ons voorkom as of 'n staatsgesteunde skema hiervoor van geweldige waarde vir die beroep van mediese tegnologie in Suid Afrika sal wees, aangesien ons afgesonder is tot 'n groot mate van nouer samewerking met Europese organisasies omrede die groot distansies en hoë reiskoste. Suid Afrikaners sal kan werk in Europa se meesbekende laboratoria terwyl kennis van tropiese en subtropiese laboratoriaaangeleenthede aan ons Europese kollegas bekend sal word.

Die Vereniging van Mediese Laboratorium Tegnoloë van Suid Afrika, wat 'n lid sal word van die Internasionale Kongres, moet alles in sy vermoë doen om te help tot hierdie saak. Daar rus ook 'n plig op die skouers van die individuele lid om sy stem te laat hoor op die regte plekke en so, sy deel by te dra tot hierdie beoogde plan. Dit sal bydra tot breër uitsigte in die mediese tegnologie van hierdie land.

## SOME REFLECTIONS ON THE 1958 INTERMEDIATE EXAMINATIONS (Natal Branch)

J. L. HERRICK

*The Laboratory, King Edward VIII Hospital, Durban*

Medical Laboratory Technologists in the Province of Natal, or possibly more correctly, in the City of Durban, are extremely fortunate in so far as facilities for their teaching are concerned. Some twelve months ago provision was made in the new School of Pharmacy of the Natal Technical College for the teaching of Medical Laboratory Technology and no effort was spared by the authorities concerned to provide the finest facilities possible for such training, in regard not only to Lecture rooms and Laboratories in which the all-important practical work could be performed, but also in respect of the equipment necessary for such teaching.

It does not fall within the scope of this article to go into details regarding the leading-up work or the personalities involved in bringing about this happy state of affairs though the writer feels that suitable acknowledgment for the work done in this connection is long overdue.

Co-incident with the vastly improved facilities for teaching, it was decided to alter the scope of the Intermediate course so that it would parallel the Intermediate course of the Institute of Medical Laboratory Technology of Great Britain.

The aim was that the new course of study would be no less exhaustive than its overseas counterpart and in fact, since elementary Parasitology had to be included to meet local conditions, it might well be claimed to be of an even higher standard. Whereas previously the Intermediate course was of eighteen months' duration, it was decided to extend this to two years and to divide the syllabus into the following five subjects,

THUS:—

- (1) Bacteriological Technique
- (2) Chemical Pathology Technique
- (3) Haematological Technique
- (4) Histo-Pathological Technique
- (5) Parasitological Technique

In addition, during the first year of the course, instruction in basic Chemistry, Physics, Anatomy and Physiology was provided.

As a Lecturer in the Intermediate course and as Moderator for the recent examination with, in addition, many years of similar experience in the United Kingdom, the writer felt that his reflections on the examinations held in November, 1958, might be helpful to future students. It is, therefore, the intention to deal with the three parts of the examination separately as follows:—

- (1) Written.
- (2) Practical.
- (3) Viva Voce.

First of all, however, in an attempt to show the candidate how best to equip him or herself for such examinations it must be made clear that emphasis is placed on the *Practical* aspect of the work. Consequently the examination is marked in the following manner:—

Written .....	50
Practical .....	100
Oral .....	50
<hr/>	
Total .....	200

The overall pass mark is 120 of which 60 must be obtained in the Practical. To emphasise the importance of the Practical examination in the marking of examination papers, let us take 2 examples:—

Example (1) Here the candidate gained more than half marks in both the Written and Viva, but less than 60 marks in the Practical and therefore, although the necessary overall 120 marks out of 200 were obtained the candidate failed, thus:—

Written .....	32
Practical .....	55
Viva .....	33
<hr/>	
Total .....	120 FAIL

Example (2) In this case, although the candidate obtained less than half marks in the Written examination, a reasonably good Practical was performed and though only the same overall figure of 120 marks was obtained as in example (1), the candidate was successful, thus:—

Written .....	23
Practical .....	65
Viva .....	32
<hr/>	
Total .....	120 PASS

In quoting these two examples to emphasise the importance of the Practical examination, the writer does not wish to convey the impression that the theoretical side of the examination is unimportant, rather is it the intention to stress that, to "Swot" the underlying theories of the multitude of techniques employed in the Medical Laboratory without being able to perform them correctly is quite useless and merely labels the individual as a bad Technologist who is unable to do his or her day-to-day work at the bench to the satisfaction of the Pathologist. Since Medical Technology is essentially very responsible work, on the results of which a patient's life may depend, it is obvious that such a technologist can be positively dangerous.

Herewith are the writer's reflections on the recent examinations :—

#### WRITTEN

Generally speaking, the results here were good and only 4 of the 9 candidates who failed in the examination as a whole did not obtain 25 marks out of 50. In the Written paper failures were mainly the result of an obvious lack of basic knowledge and in some cases, carelessness in interpreting the questions correctly. A few examples might serve to illustrate the above points.

Q. "What is a normal solution".

A.1. "A normal solution is a solution having a pH of 7".

A.2. "A solution which has reached saturation point, e.g., a certain amount of salt will dissolve in water and when it has dissolved and no more can dissolve the N point has been reached".

It is obvious that the individuals who gave these answers to the question asked are quite lacking in their basic knowledge of chemistry and had little or no use of their lecture notes.

Q. "What is a selective medium".

A. "Certain bacteria will only grow on certain media, e.g., diphtheriae grows on Loeffler's, therefore Loeffler's is a selective medium".

An answer of this type indicates confused thinking on the part of the candidate with again a lack of basic knowledge.

Q. "What factors are involved in blood coagulation".

A. "Blood coagulation takes place when the blood comes into contact with a rough surface".

No marks can possibly be given to an answer such as this.

The writer feels that candidates can help themselves in writing the paper if attention is paid to the following points :—

- (1) Obtain practice in answering written questions by getting some competent person, for example, the Senior Technologist, to set questions and then to answer these under the exact conditions as to time, etc., as laid down in the examinations. Alternatively, obtain old Examination Papers, if these are available.
- (2) At the Examination, read the questions through carefully before committing pen to paper, and decide in which order it is intended to answer the questions. This does not necessarily have to be the order in which they appear on the Paper. It is probably best to answer first the question about which one feels one knows most, and then carry on in similar order.
- (3) Answers should be as concise as possible, care being taken not to omit essentials.
- (4) As the subject matter is essentially technical, sketches or diagrams are often helpful in making oneself understood more clearly to the Examiner.

### PRACTICAL

In the Practical Examination, 25 candidates out of the 30 who presented succeeded in obtaining the necessary 60 or more marks required out of 100. The average standard was reasonably good, 8 of the successful candidates obtaining 70 or more marks. The failures fell into two categories:—

- (1) Those who showed an obvious lack of practical experience in the basic techniques asked of them, and
- (2) Those whose work was so badly presented that the examiners had difficulty in understanding how the results were reached.

In connection with the first category, it is appreciated that a number of the candidates, because of the type of laboratory in which they are employed, may be at a disadvantage in gaining experience of only limited aspects of medical laboratory technology. However, such candidates must make their own opportunities to perfect their techniques in those aspects of medical laboratory work which are denied them in their day-to-day work. They must not depend entirely on the relatively little practical work they are asked to perform during the Intermediate Course. In this regard, the writer of this article has personal knowledge of one candidate in the recent examination whose day-to-day work was of a specialised nature and who consistently spent her lunch hour and even part of her vacation in adjacent laboratories in an effort to acquaint herself with practical work which she had no opportunity of doing in her own laboratory. Her keenness was re-

flected in the excellent results which she obtained in the examinations which she passed with flying colours.

With regard to the second category of candidates above mentioned, there can be little excuse for the individual who has had bench experience in a subject and yet whose practical work is poor. It is pertinent here to give a few examples of the kind of errors which are commonly made in the Practical Examination. Again this is probably best dealt with on a "Question and Answer" basis.

- Q. "Make a film of the blood provided, stain it by the May-Grünwald-Giemsa method and do a differential count".

Now, a fundamental of good haematological technique is the ability to make a good blood smear. Microscopic examination of a poorly made smear, however well stained it might be, is potentially dangerous and should never be attempted.

The technique of staining by the May-Grünwald-Giemsa method which is in such common use, is not difficult and there can be no excuse for a poorly stained smear which makes microscopic examination extremely difficult if not impossible. When, in addition, one is faced with a differential count which either does not add up to 100%, or adds up to more than 100%, the difficulty facing the examiner in giving any marks at all for such work is obvious.

- Q. "Make a Gram film from the pus provided. Record your findings—Describe what further steps should be taken".

Let us suppose the pus contains Gram-positive cocci in clumps, Gram-negative bacilli and abundant pus cells. The microscopic findings should be recorded objectively thus:—

#### DIRECT

Pus cells	+++
G+cocci	++
G—bacilli	+

To attempt completely to identify the organisms by microscopic examination alone is not possible, yet this is commonly done, many candidates calling the Gram-positive cocci "Straphylococci" and the Gram-negative bacilli—"B coli". Usually the cultural findings plus other tests are necessary for the final identification of micro-organisms. One is sometimes appalled at the results produced in the performance of a simple Gram stain and no self-respecting technologist should expect marks for a Gram-stained film which is other than perfect.

In dealing with the Practical Examination, the writer would advise that the following points are important:—

- (1) As with the Written Paper, the Practical Paper should be read over before work is started. To obtain the best results, it is usually necessary to map out the work carefully. Thus, a technique requiring a lengthy period for its satisfactory conclusion should be commenced first so that other parts of the work may be carried out. For example, an agglutination test ought not to be left until the last few minutes. If such a test is required, it should be set up first so that other work may be done whilst it is incubating.
- (2) Notes on techniques used should be concise, omitting irrelevant detail.
- (3) Work done must be left neatly arranged and properly labelled. Examiners tend to become irritable if they have to examine the practical work of some 20 to 30 candidates and such work is left untidily all over the bench with slides and test tubes bearing no indication as to what they are. Of necessity marks are deducted for such slipshod work.

#### VIVA VOCE

In some ways, the most searching and thorough test of a candidate's theoretical knowledge is provided by oral examination. To give of his best it is essential for the candidate to think carefully about each question asked and not just to "blurt" out an answer in an effort to impress the examiner. Bluffing of this sort is readily detected and such a candidate is easily "led up the garden path". Practice in the art of accurately and concisely answering questions by the spoken word, without wandering to irrelevant points undoubtedly helps to perfect the candidate's behaviour in an oral examination. If asked a question regarding a subject with which one has had no experience, it is better for the candidate to admit his or her lack of knowledge rather than attempt to answer the question by bluffing or evasion.

To summarise, it is the writer's opinion that on the average, the standard of knowledge exhibited by the candidates in the Intermediate Examination was well up to overseas standards. The extension of the Intermediate Syllabus and the excellent teaching facilities now available to Medical Laboratory Technologists at the Natal Technical College combined with the support given by certain pathologists to the training scheme and the keen interest shown by the relevant staff of the Technical College bode well for the future of the profession in this Province.



## GENERAL NOTICES

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### COUNCIL MEETING

The Society's Council met in Durban on 19th and 20th November, 1958. The meeting was held in the Council Chamber, Natal Technical College.

**Present :**

Dr. F. A. Brandt, Chairman.

Mr. G. W. Wikeley, Hon. General Secretary,

Messrs. P. N. Buck, J. H. Maytham, N. Richardson, A. Scott and C. Stewart.

The following items of general interest to members were discussed :

**1. Joseph Prize**

In his lifetime, Mr. F. H. Joseph inaugurated two prizes each of two guineas, for the best articles by student members and by members published in the South African Journal of Medical Laboratory Technology. Council decided to convert these two prizes to a Joseph Memorial Prize, value fifteen guineas, to be awarded for the best article published in the Journal, by any member, during each three-year cycle.

**2. Membership Lists**

It is intended to publish a full membership list as a supplement to the Journal in the near future and members are asked to advise Branch Secretaries of both home and laboratory addresses, and also whether registered with the South African Medical and Dental Council.

**3. Amendments to the Constitution**

Council approved of the following amendments to the Constitution :—

Para. 5b to read :

Membership of the Society is open to any person who has completed the requirements of the Rules and Regulations regarding the Registration of Medical Technologists as gazetted from time to time by the South African Medical and Dental Council.

Para. 5c to read :

A student member of the Society is deemed to be any person who has not yet completed the requirements of 5b above.

NOTE: Notwithstanding, any person who has attained membership of the Society prior to the publication of these amendments shall in no way be prejudiced.

Para. 8i:

Insert after the word Society, line 3, the following: the persons so elected must be registered medical technologists, or be eligible for registration as such with the South African Medical and Dental Council.

#### **4. General Resolutions**

Council approved of the wearing of distinguishing shoulder flashes on white hospital uniforms and suggests that, in order to ensure uniformity, supplies be obtained from the Hon. Secretary of the Natal Branch. It was also suggested that student members wear the words 'Medical Technology' and qualified members 'Medical Technologist'.

#### **5. General Items**

Council was asked whether or not it would be possible to publish methods, etc., for the guidance of students, in the Journal. It was resolved to ask the Journal Committee to investigate and to do so where possible.

The Hon. General Secretary reported that, due to the growth of the Society and consequently of its commitments, he thought that it would be necessary at the next Council Meeting to consider the raising of annual subscriptions. He pointed out that the Society's efforts to standardise education and examination were proving to be quite costly and it was necessary to ensure that this work could continue unhampered by lack of funds. Council asked that branch secretaries discuss the matter with their members before Council meets again.

#### **Hon. General Secretary**

The Hon. General Secretary said that when his present term of office expired on 30th June, 1959, he would not seek re-election. Mr. Wikeley said that he was entering on his ninth year in office and he felt that, for the ultimate good of the Society, no one should hold an office such as his on too permanent a basis as this might have a stultifying effect.

The Chairman expressed Council's concern at this decision and said the Council had every confidence in Mr. Wikeley and in the work which he did for the Society, but he could sympathise with this point of view, he thought that the decision rested entirely with Mr. Wikeley. Mr. Wikeley was asked whether, should he not seek re-election, he would consider editing the South African Journal of Medical Laboratory

Technology. Mr. Wikeley said that he would consider this suggestion. Branches were asked to nominate candidates for the office of Hon. General Secretary.

### Donation

On behalf of the Executive Committee we wish to acknowledge a donation of Ten Pounds by Dr. J. Duncan-Taylor, Vice-President of the Society.

### Prize in Parasitology

Entries for the above-mentioned prize are at present in the hands of the judges and we hope to publish the prize-winning essay in our next issue.

### Mr. C. R. Stuart

The Executive Committee, on behalf of Council and of the Members of the Society, wish to record their appreciation of the work which the retiring Editor, Mr. C. R. Stuart, put into this Journal during his years of office. Mr. Stuart nursed the Journal during a difficult period in its early years and the Society is very grateful for all he did.



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## LETTER TO THE EDITOR

Blood Bank,  
Addington Hospital,  
Durban.  
29th January, 1959.

The Editor,  
S.A.J. Med. Lab. Tech.

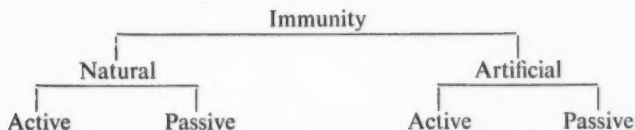
Dear Sir,

It is rare indeed that one can safely recommend enquiring students to consult an article in your Journal, but it is believed that the article by Alberto (S.A.J. Med. Lab. Tech., 4, 62) comes into that class.

It is hoped that a few remarks in passing will, if anything, add to its undoubted value.

It is questionable whether the specific reaction of antigen and antibody can be defined as taking place "in some observable way". Although addition of *other* reagents may demonstrate a reaction the reaction may not always take place in an observable way without such an addition. Examples of this are in complement fixation reactions, in which the interaction of antigen, antibody and complement is *not* observable without addition of an indicator in the form of a haemolytic system; and also in the case of incomplete (Pappenheimer, 1940) antibodies which do *not* react in an observable way until an indicator in the form of an anti-globulin agglutinin is added (Coombs, Mourant and Race, 1945).

The diagrammatic representation of the subdivisions of immunity was confusing, since infection is classed as an active acquired immunity, although it is, of course, natural. It should, therefore, have appeared under the heading of Natural and of Acquired. It is felt that this would, however, have made the diagram confusing, and the following may prove more acceptable:—



It is unfortunate that Alberto neglected to mention natural passive immunity in which antibodies are received by feeding or *in utero* from the mother, and remain in the new-born offspring for a short but use-

ful time. One example is in the anti-bacterial and anti-toxic antibodies formed before or during pregnancy by mothers and conveyed to the offspring by passage through the placental membrane in the ante-natal period, or through colostrum and milk in the post-natal period. The importance of the different routes is thought to depend on the number of tissue layers between the maternal and foetal circulations; for example: in pigs there are 5 such tissue layers and the mammary route is the only effective one, whereas in man there is but 1 layer and the placental route is very much more important than the mammary. (Mason, Dalling and Gordon, 1930). In man antibodies which may be transferred are *Corynebacterium diphtheriae* antitoxin, *Haemophilus pertussis* antibody, *Salmonella typhi* antibody, *Streptococcal* toxin antibody, and others.

Of more dramatic interest as an example of natural passive immunity is that in the form of an antibody to an antigen in the red blood cells of its bearer which is encountered after birth in offspring with haemolytic disease of the newborn in man and other animals. The antibody is formed by natural active immunization of the mother to antigens in the blood of the foetus by leakage into the maternal circulation and is then transferred to the foetus as natural passive immunity. The disease which this particular immunity produces has several synonyms, their use depending on the stage, severity and particular aspect of each case. It may be known, in addition to haemolytic disease of the newborn (H.D.N. or H.D.N.B.), as hydrops Foetalis, icterus gravis neonatorum, erythroblastosis foetalis, congenital anaemia of the newborn, or, in mild cases, as icterus praecox. It is not a com-

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## WOULD WELCOME MEMBERS

The following extract from the minutes of a meeting of the Committee of the International Congress of Medical Laboratory Technologists is published as being of interest to our members:—

“Miss de Jong (Holland), stated that Holland would welcome any members of other countries who would like to spend their holidays there and that it would probably be possible for her to arrange for them to stay with Dutch families if they wished to do so.”

Anyone wishing to do so was asked to give her the longest possible notice. Enquiries should be addressed to: The President, Vereniging van Medische Analysten, Nic. Maesstraat 120 bov,

AMSTERDAM.

mon condition and most of the few cases encountered are among the children of Rhesus negative (dd) mothers by Rhesus positive (DD or Dd) fathers. Hartmann, (1949) found 175 cases among 25,340 women in Oslo, an incidence of 1 in 144. Stratton (1953) found 565 cases among 13,300 Rhesus negative mothers in Manchester and assuming an incidence of 15.1% Rhesus negative people among the English population (Race, Mourant, Lawler and Sanger, 1948), this shows a disease incidence of 1 in 155, which agrees closely with Hartmann's figures for Oslo. For other racial groups it can be assumed that about 1 in 20 of Rhesus negative mothers with Rhesus positive partners will have children with haemolytic disease of the newborn.

It is hoped that these notes will add to the value of Alberto's article which deserves the attention of student medical laboratory technologists.

I am, Sir,

Yours faithfully,

PETER N. BUCK.

#### REFERENCES

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#### ABSTRACTS

##### Bacteriology

*Production of Opalescence by Staphylococci in Egg Yolk Medium as an index to Bacteriophage Typability.*

Graber, C. D., Lotta, R., Fairchild, J.P., and Vogel, E. H.

Am.journ.clin.path. 1958 **30**.4.314.

Use of egg yolk reaction in conjunction with standard coagulase test permits detection of phage typable staphylococci in a very high percentage of cultures. (Authors' summary.)

*Design and Evaluation of a Slit-Incubator Sampler.*

Decker, H. M., Kuchne, R.W., Buchanan, L.M., and Porter, R.  
Applied Microbiology. 6.6.398.

The authors describe a sampler which permits of the continuous sampling of vegetative organisms. The apparatus incorporates an incubator chamber and the selective medium, contained in a stainless steel tray, passes under a slit; the portion of the tray which has passed the slit enters the chamber. The sampler may be operated on continuous runs of up to 12 hours.

*A study of Staphylococci concerning Bacteriophage Typing, Antibiotic Sensitivity patterns and Factors of Virulence.*

Borchardt, K. A., Antibiotics and Chemotherapy, VIII 11.564.

G.W.W.

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## SOCIETY NEWS

### NATAL BRANCH

At a Prize-giving and Social Evening which was held at the Central Pathological Laboratory in December, 1958, the following successful students received prizes:—

Miss Y. C. Bellville, as the best student in Histopathology, received a prize donated by Drs. G. A. Drummond and J. Duncan-Taylor.

Miss A. E. Dorling received a prize donated by the Natal Branch for the best student in Parasitology; and

Miss G. Haug received the prize for the best Intermediate student, which was donated by Mr. G. W. Wikeley.

The Prizes, Book Tokens, were presented by Miss M. N. Dick, the Student Representative on the Natal Branch Committee.

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## NEW APPOINTMENT

Mr. A. Scott, who has been Chairman of the Natal Branch for six out of the last nine years, left at the end of February to take up an appointment in Johannesburg. We hope that the Transvaal Branch will now have the benefit of his long experience, and that he will not be lost to the Society.



## NEW APPARATUS

### M.S.E. — MULLARD DISINTEGRATOR.....

Now available in South Africa is the M.S.E. - Mullard Disintegrator which has been designed to provide a compact and effective apparatus for the disintegration of cells and bacteria in the laboratory.

Ultrasonic irradiation of liquids produces, apart from the effects of vibration, the phenomenon of "cavitation". This, broadly speaking, is a continuous build up and collapse of bubbles within the liquid, coinciding with sharp changes in liquid pressure each half cycle. These "cavitations" produce momentary localised pressure points of thousands of atmospheres magnitude and have an intense disruptive effect on any particles in suspension—a mechanical breaking up of both solid and liquid particles.

Application: disintegration of cells, disruption of microorganisms, lysis of red blood corpuscles, preparation of various cell and nuclear fractions, etc.

## EXAMINATION RESULTS

The following candidates were successful in the examinations of the Natal Technical College in November, 1958 :—

\* Denotes Pass with Distinction.

### INTERMEDIATE (30 Candidates)

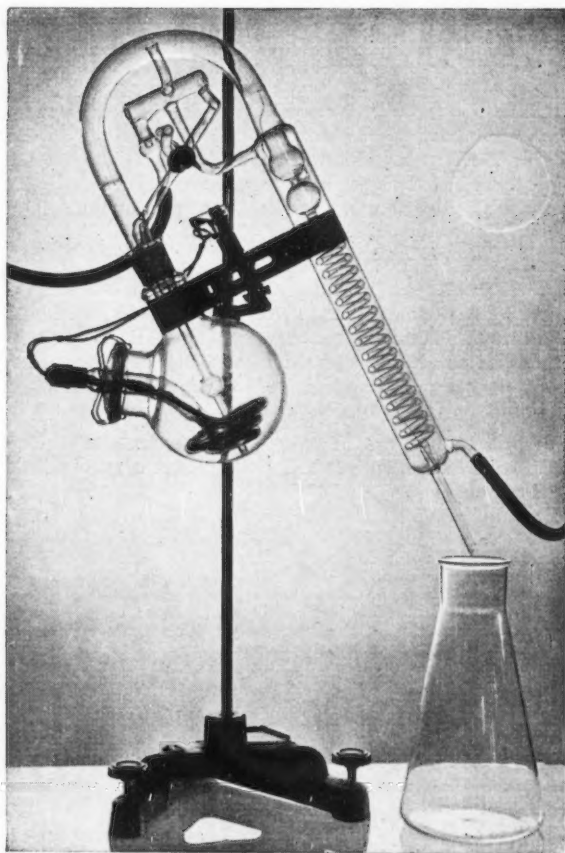
Boisson, J. C.	Herd, M. E.	Oeschger, A.
Charlesworth, L. J.	Hodgson, D. M.	Phillips, A. V.
Dick, M. N.	Horsley, J. P.	Povall, E. A.
Dukes, H. H.	Jacobs, L. J. E.	Smith, S. A. S.
Edrop, P. M.	Liljestrand, S. K.	Te Riele, H. T. M.
Haug, G.	Lundberg, C. R.	Towler, T.
Hawkes, P. E.	O'Connell, P. A.	Webb, E. J.

### PARASITOLOGY (11 Candidates)

*Bellville, Y. C.	Fernandes, A. C.	*Neilsen, B. M.
Burger, D. J.	*Henriksen, J. S.	Owen-Davies, M.
*Dorling, A. E.	*King, P. M.	*Trezona, M. A.

### HISTOPATHOLOGICAL TECHNIQUE (14 Candidates)

*Bellville, Y. C.	Henriksen, J. B.	Slater, B. A.
Dorling, A. E.	King, P. M.	Suter, F. M.
Fernandes, A. C.	Neilsen, B. M.	



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All contributions are to be addressed to:—The Editor, The South African Journal of Medical Laboratory Technology, c/o Central Pathological Laboratory, Private Bag, Jacobs, Natal.

Contributions may be written in English or Afrikaans, and should preferably be typed in double-spacing on foolscap sheets on one side of the paper only.

Figures should be drawn in Indian ink, and all figures and tables should be labelled as such (e.g. Figure 1, Table 1, etc.).

Authors should make adequate references to previous works on their subjects. These should be set out as follows:—Author's surname and initials of Christian names; the year of publication (in parentheses); the name of the journal, which should be abbreviated according to the World List of Scientific Periodicals (see below); the volume number (underlined); and the first page reference.

Example:—Moron, I. B. (1960). *J. unsuccess. Med.*, 20, 99. References to books should give the author's name and initials, the year of publication, title of book, name of publisher, and town in which published.

References should be arranged in alphabetical order of the authors' surnames. If more than one work by the same author is listed, these should appear in chronological order.

Technologists are reminded that regulations demand that all original articles of a technical or scientific nature must be approved by the heads of their departments before being submitted for publication.

### Title abbreviations according to World List of Scientific periodicals

All nouns commence with capital letters, and adjectives small letters. Articles, conjunctions and prepositions are omitted.

Examples:—  
*J. Amer. med. Ass.*      *S. Afr. J. clin. Sci.*  
*Lancet*                      *Stain Tech.*  
*Amer. J. clin. Path.*      *J. Bact.*

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If requested before publication, 24 reprints of original articles will be supplied free to contributors. As a temporary measure, contributors are asked to defray the costs of publishing diagrams and photographs accompanying articles.

## KENNISGEWING AAN INSENDERS

Alle bydrae moet as gevolg geadresseer word: Die Editeur, Die Suid Afrikaanse Joernal van Mediese Tegnologie, p/a Sentrale Patologiese Laboratorium, P/sak, Jacobs, Natal.

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Auteurs moet voldoende referensies gee tot vorige werke oor hulle onderwerpe. Die moet as volg uiteengesit word:—Auteur se familie-naam en voorletters; die jaar van uitgawe (in hakies); die naam van die Joernaal, wat moet verkort volgens die Wêreld Lys van Wetenskaplike Tydskrifte (sien hieronder) die volume nommer (onderstreep); en die eerste pagina referensie.

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Tegnoloë word daaraan herinner dat regulasies vereis dat alle oorspronklike artikels van tegniesse of wetenskaplike aard moet die goedkeuring dra van hulle departementale hoofde voor dit nagestuur word vir publikasie.

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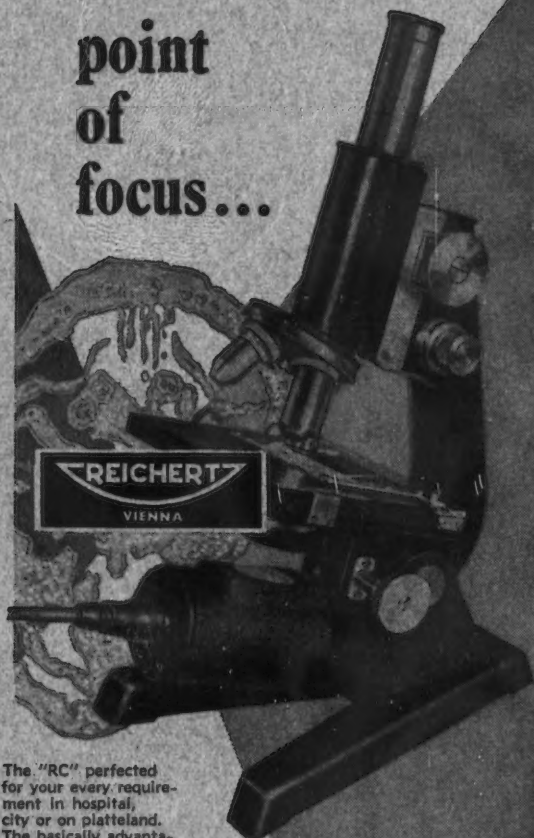
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